

REMARKS

Reconsideration and allowance of the above identified application is respectfully requested in light of the above amendments and the following remarks.

In response to the indefiniteness rejection, the specification has been extensively revised and the claims have been totally rewritten, and it is believed that each of the issues raised by the Examiner has been addressed and resolved. For example, new base Claim 30 recites that the joint body and the joint receiver of each link plate are positioned adjacent respective opposite ends of the link plate, and that the joint body of each link plate engages the receiver of the adjacent link plate. Also, the final phrase of the claim is consistent with Fig. 6 and the language of the revised paragraph at page 17 line 32 of the specification. New Claim 34, which closely corresponds to original Claim 5, now positively recites the indicated structure which allows chain movement, and the antecedent issues in the several claims noted by the Examiner have been clarified.

Regarding the disclosure issue and the objection to the drawings involving original Claim 4 (now Claim 33), a Submittal of Proposed New Drawing Figure is being filed concurrently herewith which illustrates the recited structure. Full support for the new drawing, and for the description thereof which has been added to the specification, is found at page 6, lines 22-30 of the specification.

New dependent Claim 45 is supported at page 6, lines 31-32 of the specification.

New base Claim 30 closely conforms to the subject matter recited in original base claim 1, and thus it is believed that the Examiner's indication of the allowability of Claims 1-29 is applicable to new Claims 30-54.

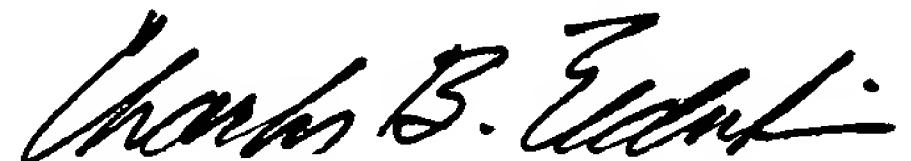
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There being no other issues, it is respectfully submitted that all of the new Claims 30-54 are in condition for immediate allowance, and such action is solicited.

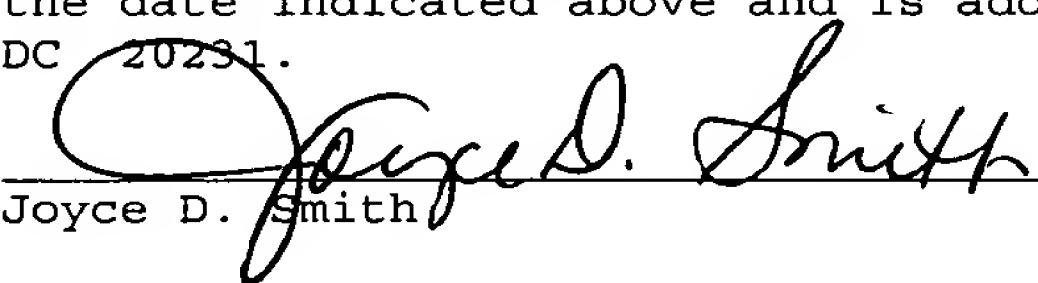
A Petition for Retroactive License was filed in the present application on June 21, 2001. No decision on the Petition has to date been received, and it is requested that a decision be rendered before or with the next communication from the Examiner.

Respectfully submitted,


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Joyce D. Smith



Version with Markings to Show Changes Made:

In the Specification:

The paragraph beginning at page 2, line 3 has been amended as follows:

The chain links of the energy line guide chain as disclosed in GB 1 585 656 A1 are adapted for pivoting about the rivets, which extend substantially crosswise to the longitudinal direction of the energy line guide chain. [An energy line guide chain of this kind is not intended for lateral deflection.]

The paragraph beginning at page 4, line 22, has been amended as follows:

Summary of the Invention

The above and other objects and advantages of the invention are achieved by the provision of a guide chain for running energy lines which

[Contrary to the state of the art as disclosed by EP 0 544 052, the energy line guide chain of the present invention] distinguishes itself in that it is constructed by individual, spatially limited, i.e., three-dimensionally movable chain links. In an extruded energy line guide chain as known from EP 0 554 051, an articulation is possible only, when the extruded sectional tubing exhibits a certain elasticity. As a result, such an energy line guide chain is capable of receiving only relatively low line weights. In the case of an energy line guide chain, as proposed by the present invention, each chain link comprises two opposite link plates extending in spaced relationship in a longitudinal direction of the

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energy line guide chain. The link plates are interconnected by at least one crosspiece. Each link plate comprises a joint body and a joint receiver, which extend substantially crosswise to the longitudinal direction of the energy line guide chain. The joint body of a link plate engages the joint receiver of an adjacent link plate. The articulated connection as is formed by the joint body and the joint receiver, does not form an integral part of the chain links, as is the case with an extruded sectional tubing of the energy line guide chain. As a result, the joint bodies and joint receivers may be designed and constructed for a greater load capacity. This applies likewise to the link plates and the crosspiece. As a result of releasably joining the chain links by the articulated connections, it will also be possible to repair the energy line guide chain, when one or more chain links have become defective.

The paragraph on page 5, line 18 has been amended as follows:

In the case of the energy line guide chain as proposed by the invention, a clearance is provided respectively between the partially overlapping link plates of at least two adjacent chain links. Also each [The] joint body comprises an outer surface area and each joint bore comprises an inner surface area. The outer surface area and the inner surface area define diametrically opposite contact areas where the outer and inner areas are in contact, and diametrically opposite gaps where there is a clearance between the areas. The contact areas thus form a pivot axis extending therebetween and which is perpendicular [two diametrically opposite outer surface areas. Likewise, the joint bore comprises two diametrically opposite inner surface areas. Preferably, the

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normal lines of the outer surface areas and the inner surface areas extend substantially perpendicularly to the longitudinal direction of the energy line guide chain. When the joint body extends into the joint receiver, the outer and inner surface areas lie against each other. The outer and inner surface areas ensure a mobility of the chain links about an axis extending substantially crosswise] to the longitudinal direction of the energy line guide chain. The pivoting capability of the individual chain links relative to one another is thus achieved [in that] only by having the outer and inner surface areas lie against one another. The clearance which is provided between the partially overlapping plates of adjacent chain links [Between the further wall surface areas of the joint body and joint receiver, a clearance is provided, which] allows the energy line guide chain to deflect substantially crosswise to its longitudinal axis.

The paragraph beginning on page 17, line 32 has been amended as follows:

In the embodiment of Fig. 6, each [Each] joint body 6 is [made] substantially cylindrical, and the[. The] joint receiver 7 has a substantially oval cross section. The joint body 6 and joint receiver 7 comprise [each] surface sections, which form diametrically opposite [a common] contact areas [connection area] 16. The contact areas [connection area] 16 each extend [extends] substantially in the longitudinal direction of the link plates 3. Between the diametrically opposite contact [connection] areas 16, a gap 17 is formed on each side of the joint body 6 which extends between an inner [outer] surface area 18 of joint receiver 7 and an outer [inner] surface area 19 of the joint body 6. The joint

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connection comprises two substantially diametrically opposite gaps 17, which are crescent-shaped in the illustrated embodiment. When viewed in the circumferential direction of joint body 6, the gaps each extend from a contact [the connection] area 16 to the contact [connection] area 16 on the opposite side.

The paragraph beginning on page 20, line 9 has been amended as follows:

Both the joint body 26 and the joint receiver 27 of the chain links are designed and constructed in the same way as those of chain link 1 [21]. For this reason, the description with reference to Figures 6 and 7 is herewith incorporated by reference.

The paragraph beginning on page 21, line 4 has been amended as follows:

The joint bodies 42 are provided in end regions of link plates 38, 39. The opposite end regions of link plates 38, 39 accommodate the joint receivers 46. The joint receivers 46 have a substantially elliptical cross section, so that the joint bodies are capable of pivoting in the corresponding joint receivers such as to deflect adjacent chain links 37 relative to each other in the lateral direction.

The paragraph beginning on page 22, line 25 has been amended as follows:

To limit the angle of traverse of adjacent chain links about an axis extending crosswise to the longitudinal direction of the energy line guide chain, preferably each link plate comprises at its end a stop element 61. The opposite

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end of the link plate is provided with stop surfaces 62. The stop elements 61 cooperate with the stop surfaces 62 of an adjacent chain [chaint] link. The stop surfaces 62 are formed in a plane extending substantially parallel to a center plane of the link plate. Preferably, the stop surfaces are made equidistant from the center plane. Likewise, the stop element 61 is formed in the region of the center plane of the link plate.

The paragraph beginning on page 23, line 24 has been amended as follows:

The base body 64 [63] is provided with a receptacle 68, which is adapted for accommodating a connection element not shown. The connection element is attached to a connection point. In the illustrated embodiment, the receptacle 68 is designed and constructed crosswise to the longitudinal axis of an energy line guide chain, which is not absolutely mandatory. The joint receiver may also be made parallel to the longitudinal axis of an energy line guide chain. It may even intersect the longitudinal axis of the energy line guide chain at an angle.

The paragraph beginning on page 26, line 9 has been amended as follows:

When the connecting link 63 is connected to a connection element not shown, the connection element will engage opening 68. To prevent the connecting link 63 from disengaging from the connection element, a snap-in engagement occurs between the walls 71 and the connection element. To block this snap-in engagement, the locking element 80 is further pushed into slide-in opening 74, until it occupies the end or locking position shown in Figures 32-34. To realize



that the locking element 80 is further pushed in inside the slide-in opening 74, the locking element 80 pushes the safety flap away from the base body 64, as shown in Figure 31. The safety flap 85 is pushed away from base body 64 so far that it is possible to slide the safety flap 85 over the projection 88. At the same time, this movement causes the free legs 81, 82 to slide between the side walls 77 and the outer surfaces 91 [92] of wall segments 71, so that the free legs 81, 82 lie both against the side wall 77 and against the outer surface 91 [92] of wall segments 71, for purposes of preventing the wall segments 71 from moving radially outward. Figure 33 illustrates the position of legs 81, 82, in which the locking engagement is reached.

The paragraph beginning on page 38, line 3 has been amended as follows:

An [The invention relates to an] energy line guide chain for running lines between a stationary and a movable connection, with jointed chain links of plastic, which define each a channel section extending in the direction of the energy line guide chain. Each chain link comprises opposite link plates extending in spaced relationship in a longitudinal direction of the energy line guide chain. The link plates are interconnected by at least one crosspiece. Each link plate comprises a joint body (6) and a joint receiver (7), which extend substantially crosswise to the longitudinal direction of the energy line guide chain. The joint body (6) of a link plate engages the joint receiver (7) of an adjacent link plate. Between the partially overlapping link plates of two adjacent chain links, a clearance is provided. The joint body (6) comprises two diametrically opposite outer surface areas (19) [(18)]. The joint receiver (7) has two diametrically

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opposite inner surface areas (18) [(19)]. The [Only the] outer surface areas [(18)] and inner surface areas define diametrically opposed gaps (17) which permit [(19) adjoin one another. The design and construction of the energy line guide chain permits] a lateral deflection of the chain links.

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